Application No. 09/844,251
Filed: April 27, 2001
TC Art Unit: 2832
Confirmation No.: 8919

AMENDMENT TO THE CLAIMS

1. (Currently Amended) A process for preparing ~~the~~ a ~~contacts~~ contact on a ~~microswitches~~microswitch, ~~said~~ the process reducing ~~the~~ a resistance of ~~said~~ the ~~microswitches~~ microswitch and maintaining ~~the~~ a low resistance of ~~said~~ the ~~microswitches~~ microswitch for many cycles, comprising:

a. ~~obtaining~~ forming the ~~microswitches~~ microswitch~~and~~ contact with a predetermined material;

b. temporarily exposing ~~said~~ the microswitch ~~contacts from said microswitches~~ to a fluid under predetermined conditions to lower a contact resistance~~for preparing said microswitches~~.

2. (Currently Amended) The process of claim 1 wherein ~~said~~ the microswitch is a microrelay.

3. (Currently Amended) The process of claim 1 wherein the material~~s~~ used to ~~make~~ form the ~~said contacts~~ contact ~~are~~ is selected from the group consisting of gold, ruthenium, rhodium and combinations thereof.

4. (Currently Amended) The process of claim 3 wherein ~~said~~ the material is ruthenium.

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5. (Currently Amended) The process of claim 1 wherein ~~said~~ the microswitch is fabricated using the process outlined in Figure 3.

6. (Withdrawn) The process of claim 1 wherein said fluid for preparing said microswitch comprises materials selected from the group consisting of acids, bases, peroxides and mixtures thereof.

7. (Withdrawn) The process of claim 6 wherein said materials are diluted with water.

8. (Withdrawn) The process of claim 6 wherein said materials are selected from the group consisting of sulfuric acid, hydrochloric acid, ammonium hydroxide, hydrogen peroxide, and mixtures thereof, said materials being optionally diluted with water.

9. (Withdrawn) The process of claim 6 wherein said contacts are exposed to said materials for approximately 5 - 30 minutes.

10. (Withdrawn) The process of claim 9 wherein said exposure is for approximately 20 minutes.

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11. (Withdrawn) The process of claim 9 wherein said preparation additionally includes a step of releasing said die from a mold by use of a process comprising (1) exposing said die and mold to concentrated, semiconductor grade hydrogen peroxide for approximately 5-20 minutes), (2) rinsing said die with deionized water for approximately 5-20 minutes, (3) exposing said die to a 25% solution of concentrated, semiconductor grade nitric acid, 75 % deionized water (vol/vol), at from room temperature to 60C for approximately 30-90 minutes, (4) rinsing said die with deionized water for approximately 5-20 minutes, (5) exposing said die and mold to concentrated, semiconductor grade hydrogen peroxide for approximately 5-20 minutes, (6) rinsing said die with deionized water for approximately 5-20 minutes, and (7) drying said released microswitch with N_2 gas.

12. (Currently Amended) The process of claim 1 wherein ~~said~~ the fluid ~~for preparing said microswitch~~ comprises materials selected from the group consisting of oxygen, carbon tetrafluoride, sulfur hexafluoride or other fluorine-containing gases, argon and mixtures thereof.

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13. (Currently Amended) The process of claim 12 wherein ~~said~~ the material is a gaseous plasma.

14. (Currently Amended) The process of claim 13 wherein ~~said~~ the plasma is Inductively Coupled Plasma.

15. (Currently Amended) A process for preparing ~~the~~ a ~~contacts~~ contact on a ~~microswitches~~ microswitch ~~having~~ wherein the contact formation includes Ru ~~contacts~~, comprising temporarily exposing ~~said~~ the ~~contacts~~ contact ~~from said microswitches~~ to an oxygen plasma to reduce contact resistance.

Please add new claims 16-20.

16. (New) A microswitch contact formed according to the process of claim 1.

17. (New) A microswitch formed according to the process of claim 1.

18. (New) A microswitch formed according to the process of claim 5.

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19. (New) A microswitch formed on a semiconductor die with an active region, wherein the microswitch is formed according to the process of claim 1.

20. (New) A semiconductor package having a semiconductor die connected to external pins, the die including an active area;

a microswitch formed on a surface of the die, wherein the microswitch is formed according to the process of claim 1.

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